RALOY

User Manual

RW119 – Series

Features & Benefits:

- 1U console, server rack mount & universal tapped rails- square holes
- Modular scalability: KVM switch, Peripherals & More
- Combo interface PS/2 or USB input w/ front USB port access
- 19” Widescreen Samsung CCFL LCD w/ Hi Resolution (1440 x 900)
- New easy maneuver front handle & two point lock system
- 6 foot combo KVM cable included

Modular Scalability

- Multi-platform KVM switch capability: PS/2, USB or Sun
- Mouse: Touchpad(e) or Trackball(b)
- Keyboard available in 13 languages
- DC power options: 48V, 24V or 12V
- VGA Broadcast-grade input
    - or Audio or S-Video + Composite (BNC)
    - or DVI-D or HDMI with speaker

RWS119 – Sun Series

- Direct support for SUN Micro 1152 x 900 native resolution
- Combo interface PS/2 or USB input
- SUN key support including Stop, Cut, Paste, Compose etc

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1.1 Important Safeguards

Please read all of these instructions carefully before you use the device. Save this manual for future reference.

What the warranty does not cover

- Any product, on which the serial number has been defaced, modified or removed.
- Damage, deterioration or malfunction resulting from:
  - Accident, misuse, neglect, fire, water, lightning, or other acts of nature, unauthorized product modification, or failure to follow instructions supplied with the product.
  - Repair or attempted repair by anyone not authorized by us.
  - Any damage of the product due to shipment.
  - Removal or installation of the product.
  - Causes external to the product, such as electric power fluctuation or failure.
  - Use of supplies or parts not meeting our specifications.
  - Normal wear and tear.
  - Any other causes which does not relate to a product defect.
- Removal, installation, and set-up service charges.

1.2 Regulatory Notice

Legal Information
First English printing, October 2002

Information in this document has been carefully checked for accuracy; however, no guarantee is given to the correctness of the contents. The information in this document is subject to change without notice. We are not liable for any injury or loss that results from the use of this equipment.

Safety Instructions

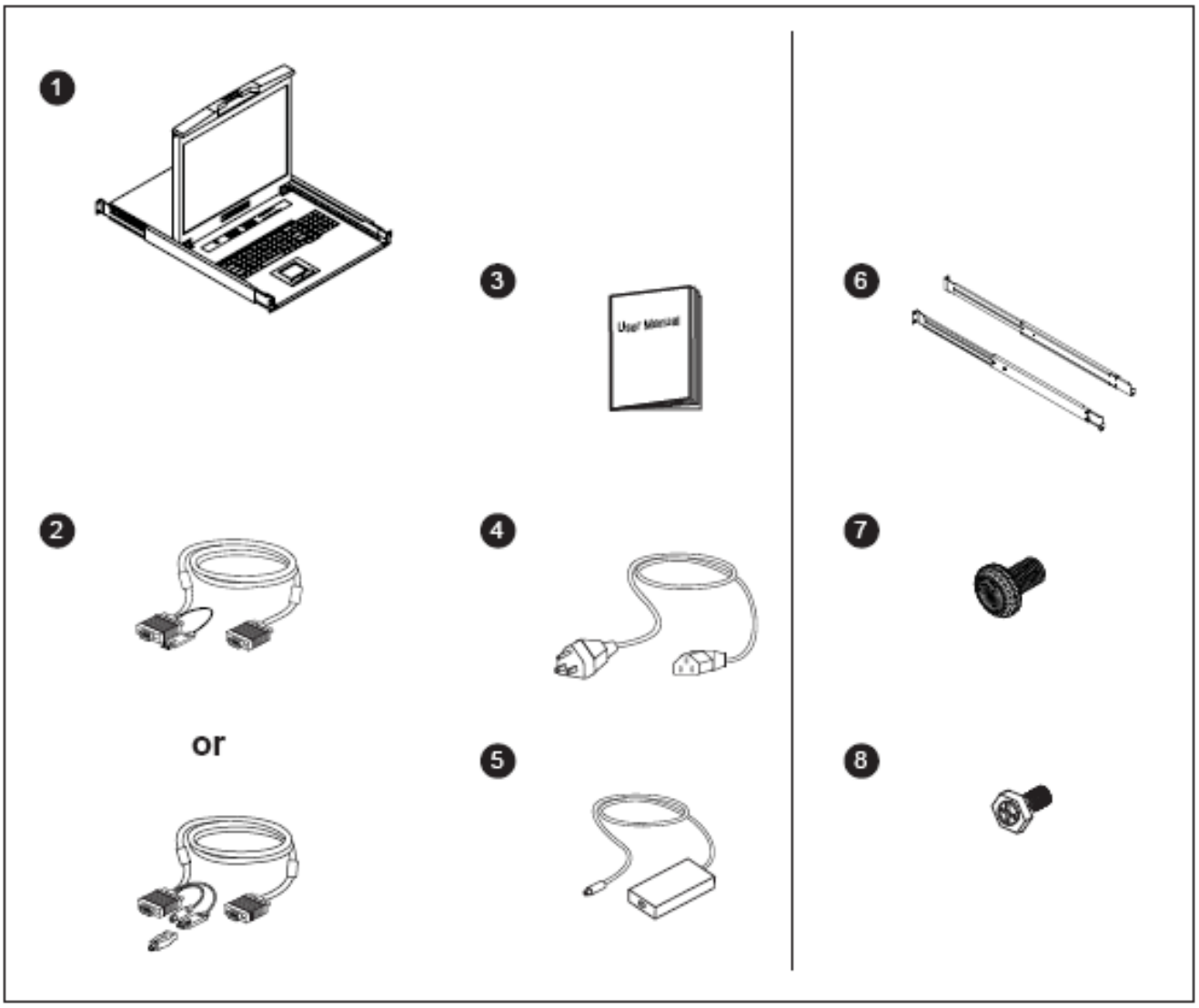
- Unplug equipment before cleaning. Don't use liquid or spray detergent; use a moist cloth.
- Keep equipment away from excessive humidity and heat. Preferably, keep it in an air-conditioned environment with temperatures not exceeding 40º Celsius (104º Fahrenheit).
- When installing, place the equipment on a sturdy, level surface to prevent it from accidentally falling and causing damage to other equipment or injury to persons nearby.
- When the drawer is in an open position, do not cover, block or in any way obstruct the gap between it and the power supply. Proper air convection is necessary to keep it from overheating.
- Arrange the equipment's power cord in such a way that others won't trip or fall over it.
- If you are using a power cord that didn't ship with the equipment, ensure that it is rated for the voltage and current labeled on the equipment's electrical ratings label. The voltage rating on the cord should be higher than the one listed on the equipment's ratings label.
- Observe all precautions and warnings attached to the equipment.
- If you don't intend on using the equipment for a long time, disconnect it from the power outlet to prevent being damaged by transient over-voltage.
- Keep all liquids away from the equipment to minimize the risk of accidental spillage. Liquid spilled on to the power supply or on other hardware may cause damage, fire or electrical shock.
- Only qualified service personnel should open the chassis. Opening it yourself could damage the equipment and invalidate its warranty.
- If any part of the equipment becomes damaged or stops functioning, have it checked by qualified service personnel.

CAUTION: Slide/rail mounted equipment is not to be used as a shelf or a work space.

Regulatory Notices Federal Communications Commission (FCC)
This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation.
Any changes or modifications made to this equipment may void the user's authority to operate this equipment.
This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications.
However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Re-position or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.

1.3 Package Contents



1) LCD keyboard drawer x 1 pc
2) **RCB-6** USB 2-in-1 KVM cable x 1 pc (for RWS series) **or**
   RCE-6 Combo 4-in-1 KVM cable x 1 pc (for RW series)
3) User manual x 1 pc
4) Power cord x 1 pc
5) Auto switch power adapter (for external power version) x 1 pc
6) Mounting bracket x 2 pcs
7) M6*15mm screw x 8 pcs
8) M3.2*6mm screw x 4 pcs

1.4 Before Installation

- It is very important to place the LCD Keyboard Drawer in a suitable environment.
- The surface for placing and fixing the LCD Keyboard Drawer should be stable and level or mounted into a suitable cabinet.
- Make sure the location is well ventilated, out of direct sunlight, away from sources of excessive dust, dirt, heat, water, moisture and vibration.
- Position LCD Keyboard Drawer with respect to related facilities.

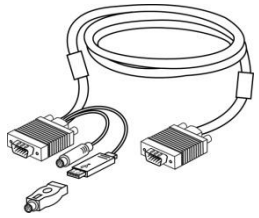
1.5 Unpacking

The LCD keyboard drawer comes with the standard parts as shown in the package contents. Check and make sure they are included and in good condition. If anything is missing, or damage, contact the supplier immediately.

1.6 Optional Accessories

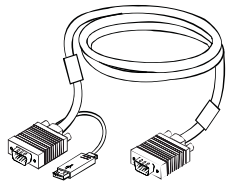
1. Combo 4-in-1 KVM cable

1.1 RCE-6 6 feet
1.2 RCE-10 10 feet
1.3 RCE-15 15 feet



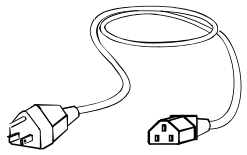
2. USB 2-in-1 KVM cable

2.1 RCB-6 6 feet
2.2 RCB-10 10 feet
2.3 RCB-15 15 feet



3. **Power Cord**

3.1 IEC power cord
3.2 REC-PUS NEMA 5-15 power cord (US)
3.3 REC-PUK BS 1363 power cord (UK)
3.4 REC-PGM CEE 7/4 power cord (German)
3.5 REC-PAU AS 3112 power cord (Australia)



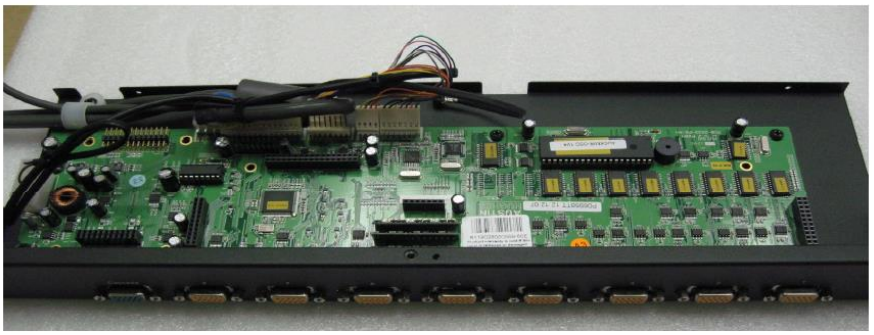
Remarks:

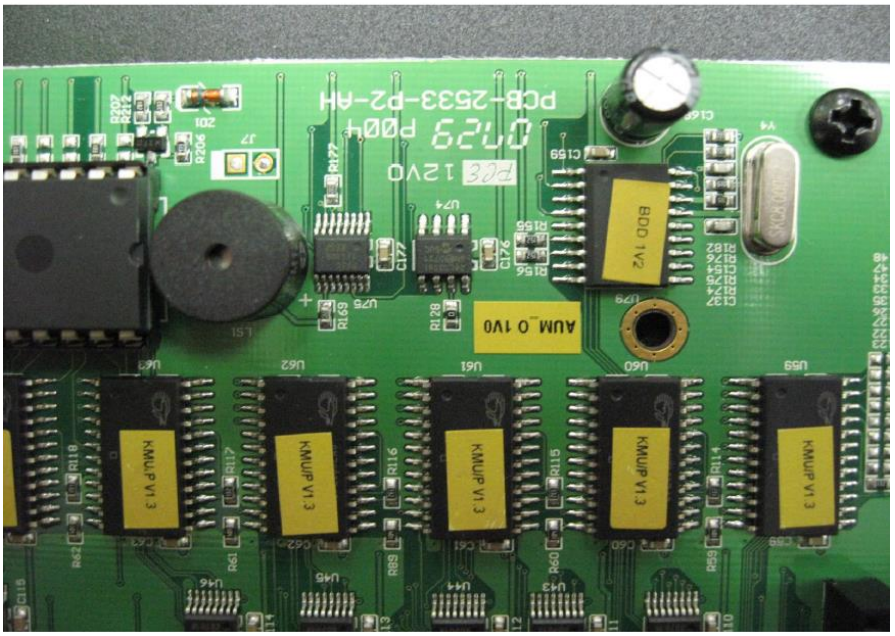
- RCB-6 is for “RWS” series only

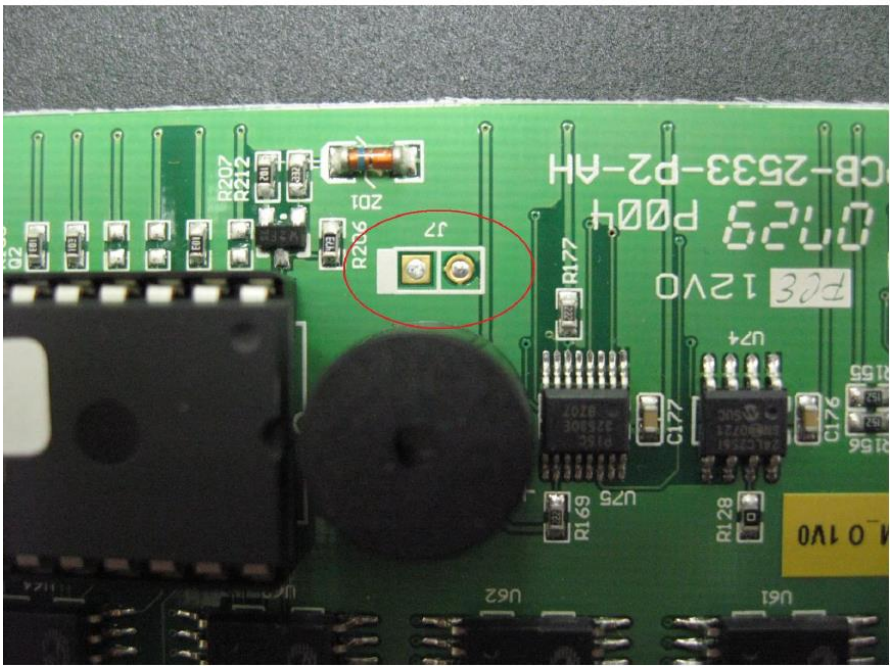
1.7 Default KVM Password & Reset Diagram

The user name & password can be reset to default "**00000000**" (8 digits of zero via keyboard not 10Key)

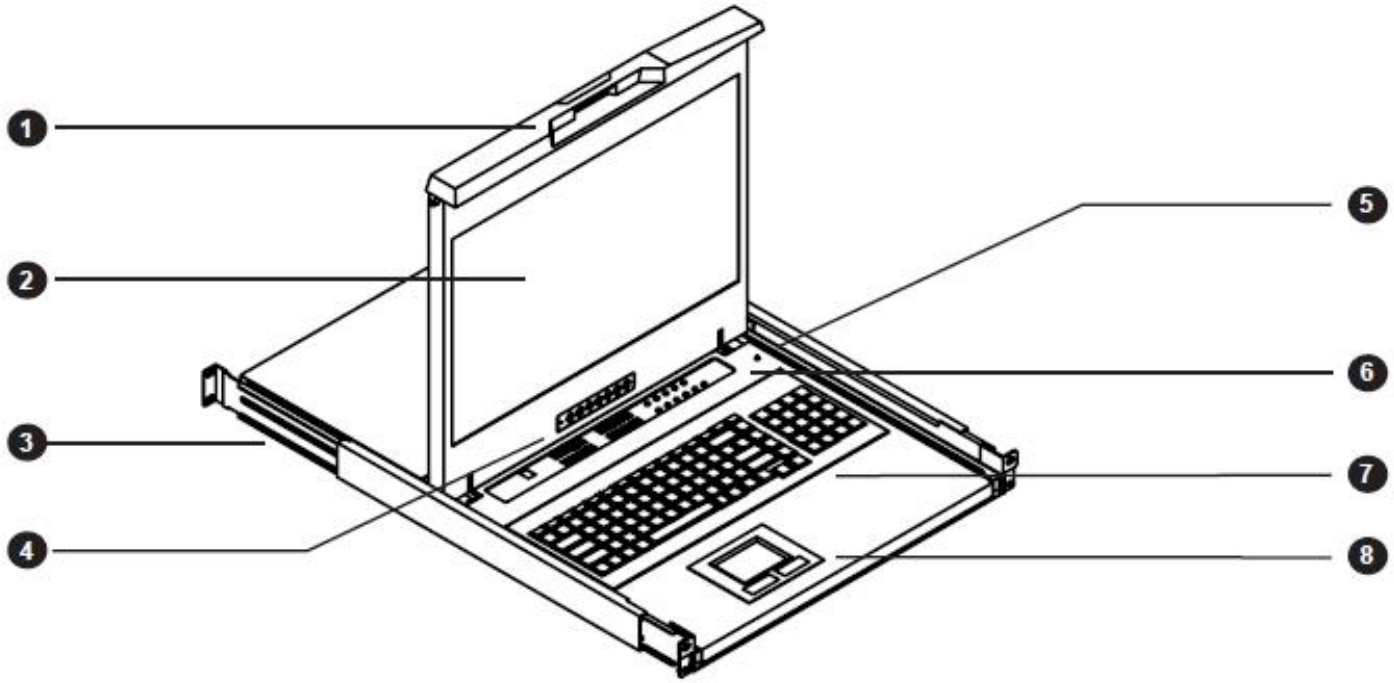
1) The KVM password can be reset on the KVM PCB board
2) Open the KVM top metal cover
3) Find the jumper **J7**, then use either paper clip or scissors to touch the two boxes of J7 in order to close/short the jumper 5 ~ 10 second







1.8 Structure Diagram



① Carry handle to release the 2-pt lock

② LCD interchangeable module kit

③ "One Man" Installation Slides

④ LCD membrane

⑤ Micro switch for screen auto power off

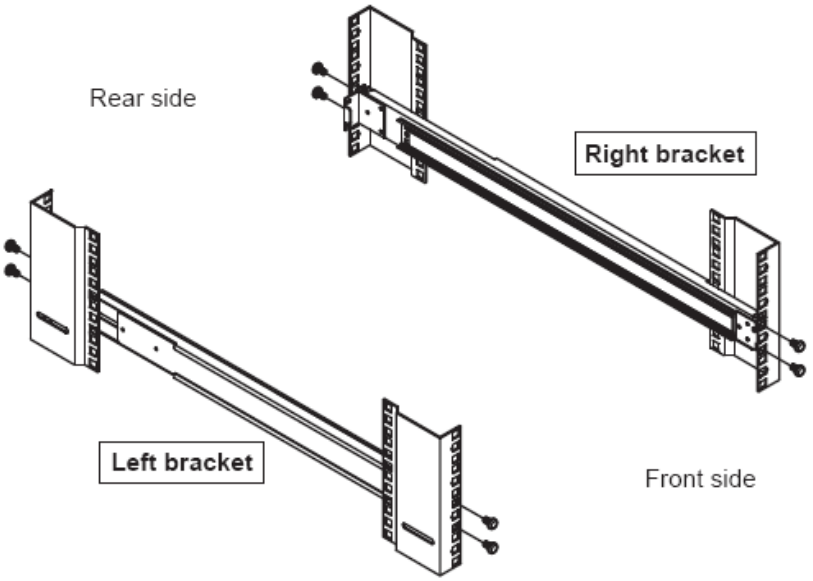
⑥ Membrane switch (KVM option)

⑦ Keyboard interchangeable module kit

⑧ Mouse interchangeable module kit

1.9 Installation

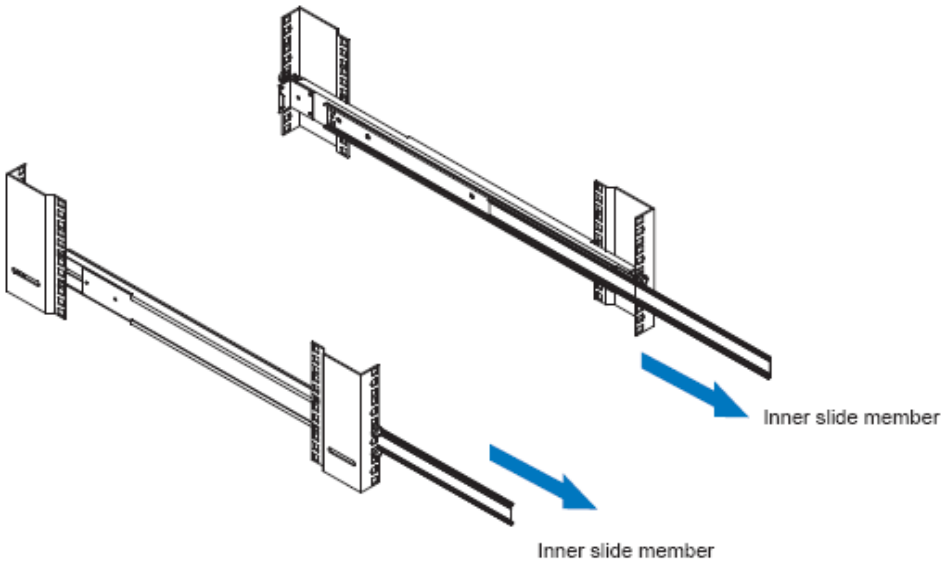
1



- Attach the ***left and right mounting bracket*** to rack 19” mounting rails
- Adjust the mounting bracket to fit your rack
- M6 screw x 8pcs included

Caution: Leaving all M6 screw slightly loose, until you complete the installation in step 5

2

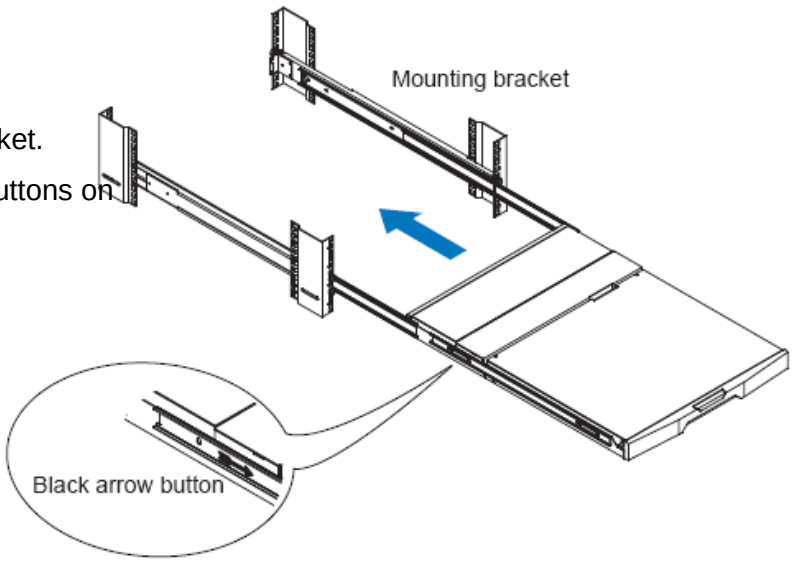


- Pull out left & right inner slide members

1.9 Installation (continued)

3

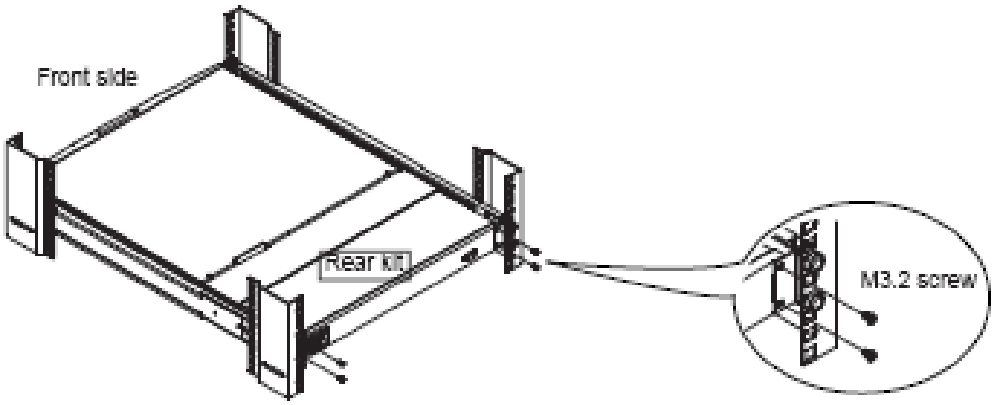
- Pick up the LCD tray.
- Insert the LCD tray into the mounting bracket.
- Pull and hold the left & right black arrow buttons on the rails.
- Return the LCD tray to park position.



4

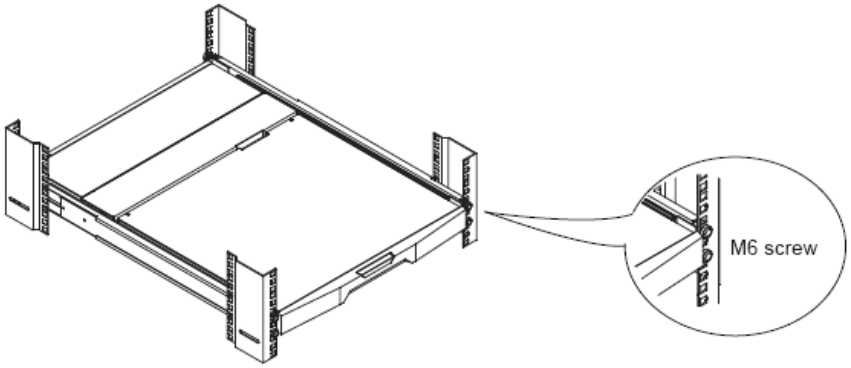
- Fix the ***rear kit*** to the mounting bracket by M3.2 screw x 4 pcs included.

Caution: This step is necessary. Failure to complete this will cause damage.



5 **Complete the installation**

- Tighten all 8 pcs of M6 screw to complete the installation.



1.10 How to use the slides

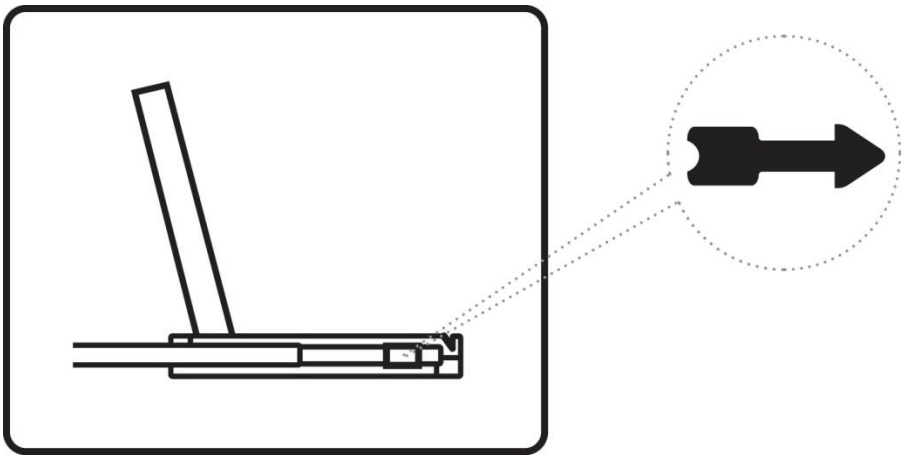


Figure 1.

- A black arrow release button is located on the outside of each slide. (shown in **Figure 1**).

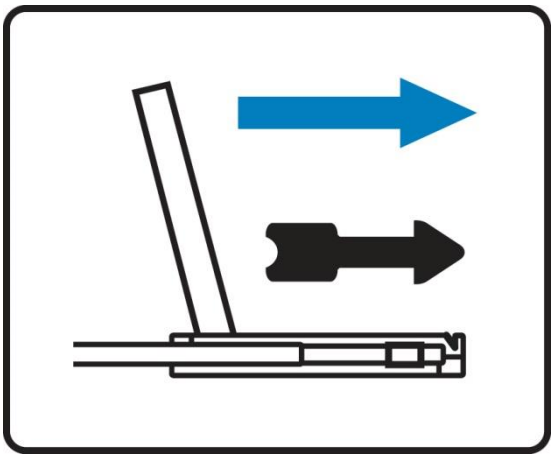


Figure 2.

- Pull and hold the black arrow button on either side of the LCD keyboard drawer to unlock. (shown in **Figure 2**).

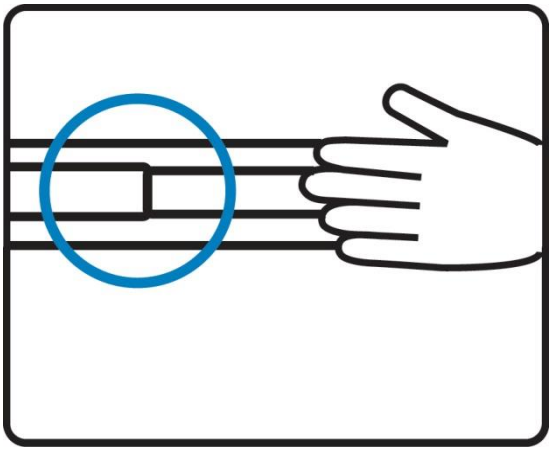


Figure 3.

- Push the LCD keyboard drawer into the rack. (shown in **Figure 3**).

Caution : Keep your fingers away from the slide stop

1.11 How to use the LCD Keyboard Drawer

Figure 4. Sliding out the LCD keyboard drawer by pressing the carry handle button first.

- Press the carry handle button. Gently pull the carry handle toward the front of the LCD. (shown in **Figure 4**)

Figure 5. Flipping up the LCD to a suitable angle.

- Flip up the LCD to a suitable angle. (shown in **Figure 5**)

Figure 6. Operating the LCD keyboard drawer

- Operate the LCD keyboard drawer. (shown in **Figure 6**)

1.12 RWS119 (Single console) – USB Server Connection

- Use RCB-6 to connect to server via USB interface

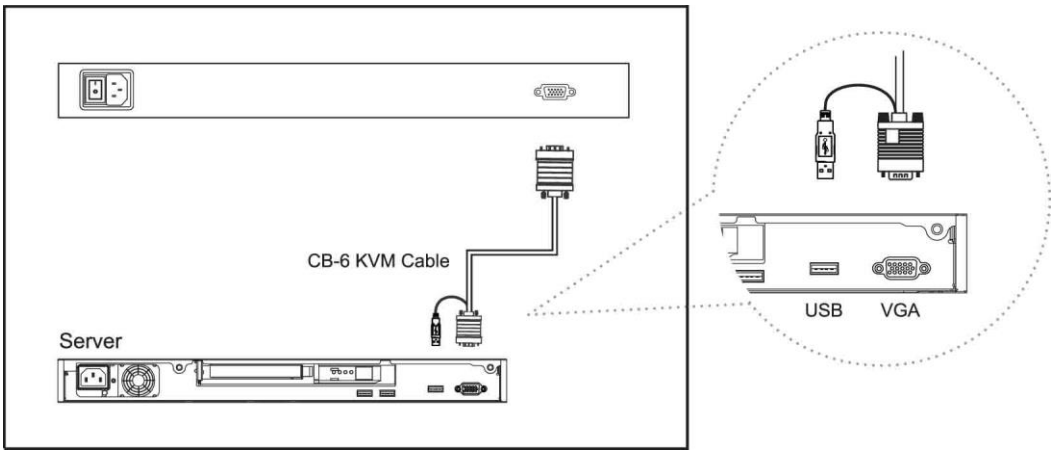


Figure 7. Example of connecting RCB-6 2-in-1 USB KVM cable to server via USB interface

1.13 RWS119 (Single console) – USB KVM Connection

- Use RCB-6 to connect to KVM via USB interface

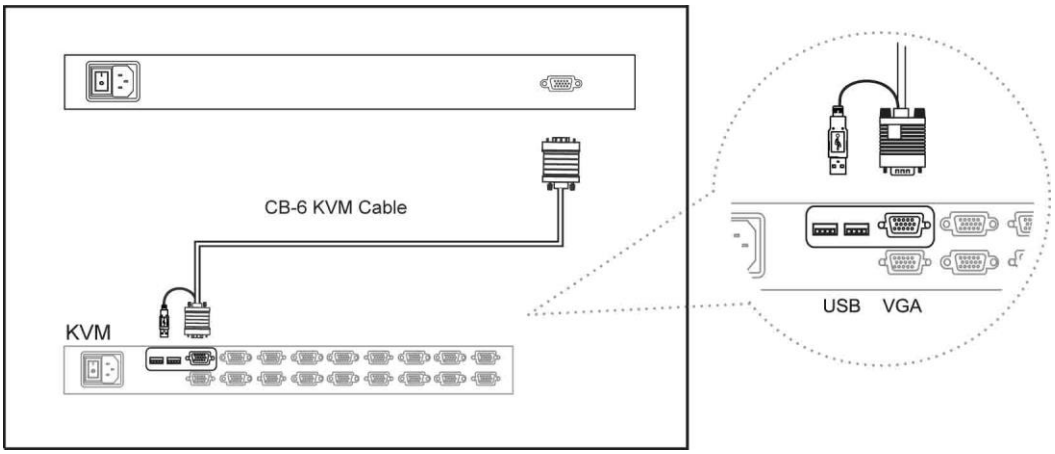


Figure 8. Example of connecting RCB-6 2-in-1 USB KVM cable to KVM via USB interface

Remarks:

- The above connection is only for the LCD keyboard without KVM switch built-in.
- For the LCD keyboard drawer with KVM switch built-in, please refer to attached KVM switch user manual.

Caution: The LCD keyboard drawer is hot-pluggable, but components of connected devices, such as the servers and KVM switch, may not be hot-pluggable. Plugging and unplugging cables while servers and KVM are powered on may cause irreversible damage to the servers, KVM and LCD keyboard drawer. Before attempting to connect anything to the LCD keyboard drawer, we suggest turning off the power to all devices before connecting them. Apply power to connected devices again only after the LCD keyboard is receiving power. The company is not responsible for damage caused in this way.

1.14 RW119 (Single console) – PS/2 Server Connection

- Use RCE-6 to connect to server via PS/2 interface

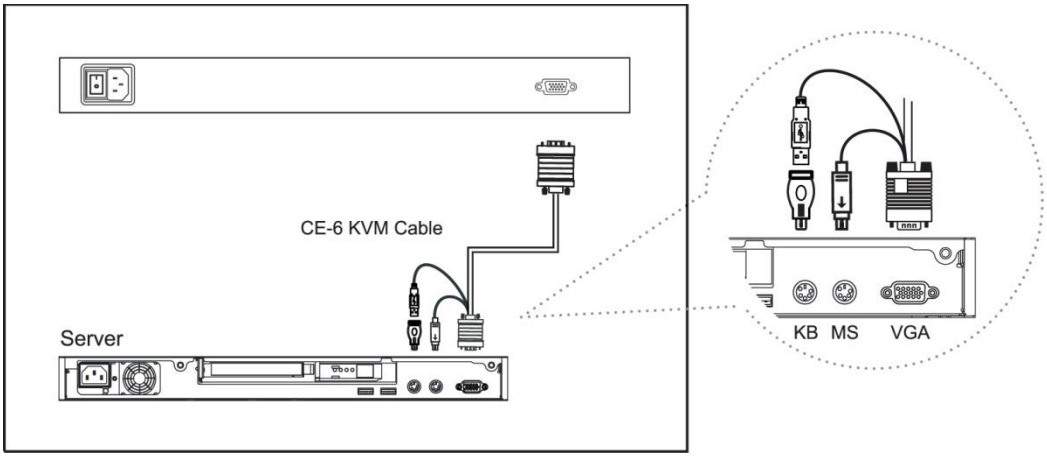


Figure 9. Example of connecting RCE-6 4-in-1 Combo KVM cable to server via PS/2 interface

1.15 RW119 (Single console) – PS/2 KVM Connection

- Use RCE-6 to connect to KVM via PS/2 interface

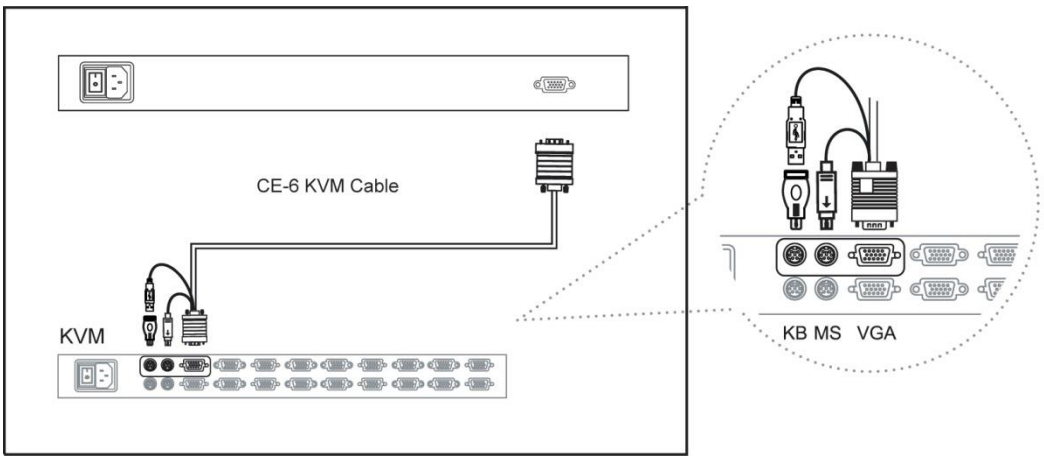


Figure 10. Example of connecting RCE-6 4-in-1 Combo KVM cable to KVM via PS/2 interface

Remarks:

- The above connection is only for the LCD keyboard without KVM switch built-in.
- For the LCD keyboard drawer with KVM switch built-in, please refer to attached KVM switch user manual.

Caution: The LCD keyboard drawer is hot-pluggable, but components of connected devices, such as the servers and KVM switch, may not be hot-pluggable. Plugging and unplugging cables while servers and KVM are powered on may cause irreversible damage to the servers, KVM and LCD keyboard drawer. Before attempting to connect anything to the LCD keyboard drawer, we suggest turning off the power to all devices before connecting them. Apply power to connected devices again only after the LCD keyboard is receiving power. The company is not responsible for damage caused in this way.

1.16 RW119 (Single console) – USB Server Connection

- Use RCE-6 to connect to server via USB interface

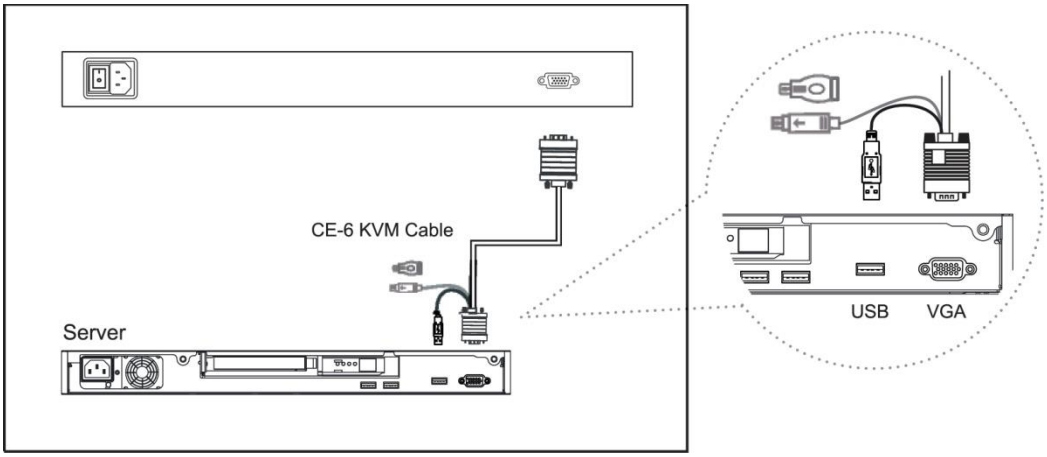


Figure 11. Example of connecting RCE-6 4-in-1 Combo KVM cable to server via USB interface

1.17 RW119 (Single console) – USB KVM Connection

- Use RCE-6 to connect to KVM via USB interface

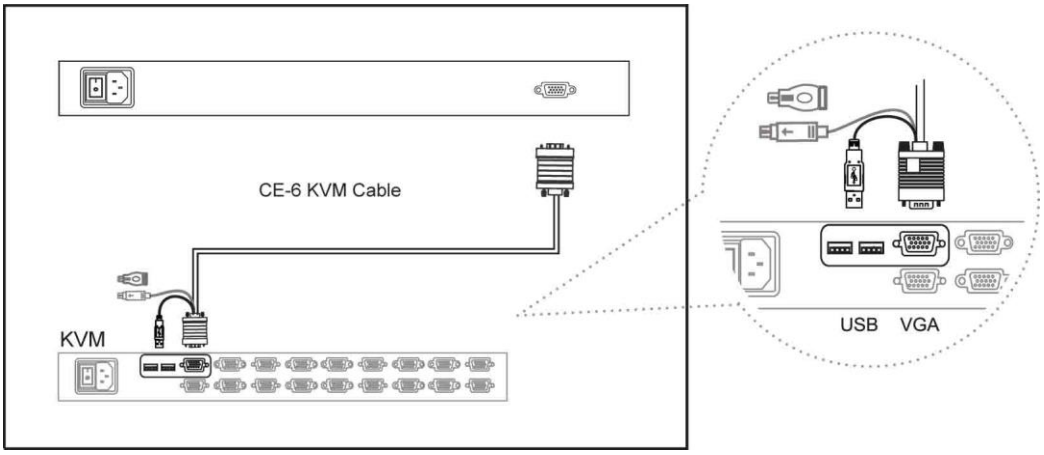


Figure 12. Example of connecting RCE-6 4-in-1 Combo KVM cable to KVM via USB interface

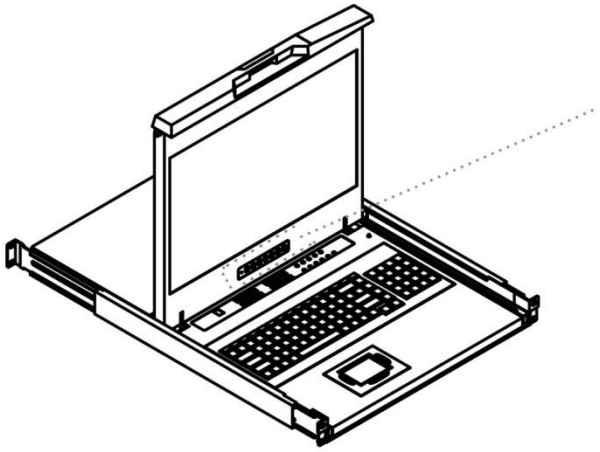
Remarks:

- The above connection is only for the LCD keyboard without KVM switch built-in.
- For the LCD keyboard drawer with KVM switch built-in, please refer to attached KVM switch user manual.

Caution: The LCD keyboard drawer is hot-pluggable, but components of connected devices, such as the servers and KVM switch, may not be hot-pluggable. Plugging and unplugging cables while servers and KVM are powered on may cause irreversible damage to the servers, KVM and LCD keyboard drawer. Before attempting to connect anything to the LCD keyboard drawer, we suggest turning off the power to all devices before connecting them. Apply power to connected devices again only after the LCD keyboard is receiving power. The company is not responsible for damage caused in this way.

Chapter 2 Operation

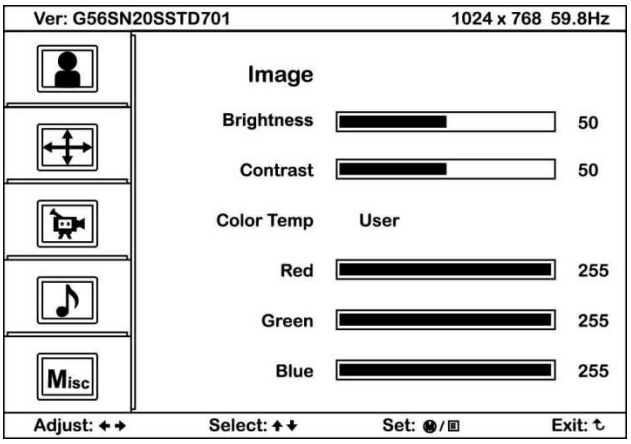
2.1 On-screen Display Operation



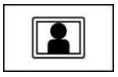
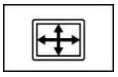
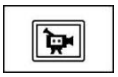
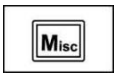
LCD membrane

Membrane Switch	Function
○ ● ●	Power light Green = On Orange = Power saving
⊖	Power on / off LCD
M	Display the OSD menu
◈◈◈◈	Scrolls through menu options and adjusts the displayed control (To auto adjustment by pressing the button ◈ for 5 seconds)
↩	Exit the OSD screen Toggle analog, digital & video connection (DVI-D and video options only)

2.2 On-screen Menu



OSD Configuration Page

	**Image:** To enter into the brightness, contrast, colour temp, red, green, and blue
	**Geometry:** To enter into the auto adjust, H position, V position, phase and clock
	**Video:** To enter into the colour, tint, sharpness, noise reduction, DCDi and TV Setup
	Audio: To enter into volume, bass, treble, balance, AVL and mute
	**Misc:** To enter into the language, OSD position, graphic mode, OSD time, ratio, reset and timer

Chapter 3 Standard Specifications

3.1 Specifications

Item	Description	
Form Factor	1U rack mounting on slide-out rails	
LCD Manufacturer	SAMSUNG	-
Series	RW	RWS
Diagonal Size	Wide 19" TFT	Wide 19" TFT
Max. Resolution	1440 x 900	1152 x 900 (Direct) 1440 x 900 (Native)
Brightness (cd/m²)	300	300
Color Support	16.7 M	16.7 M
Contrast Ratio (typ.)	1000:1	1000:1
Viewing Angle (H/V)	160˚ x 160˚	160˚ x 160˚
Display Area (mm)	408 x 255	408 x 255
Tr Response Time (ms)	1.3	1.3
LCD Panel MTBF (hrs)	50,000	50,000
VGA Signal Input	Analog RGB, 0.7Vp-p	
Sync. Type	Separate H/V, Composite, SOG	
Resolution	720 x 400, 70 Hz	
	640 x 480, 60/ 70/ 72/ 75 Hz	
	640 x 350 x 70Hz	
	640 x 400 x 70Hz	
	800 x 600, 60/ 70/ 72/ 75 Hz	
	848 x 480 x 60Hz	
	1024 x 768, 60/ 70/ 75 Hz	
	1152 x 864 x 75 Hz	
	1280 x 760, 60/ 75 Hz	
	1280 x 960 x 60Hz	
	1280 x 1024, 60/ 75 Hz	
	1440 x 900, 60 Hz	
	--	1152 x 900, 66 Hz
Plug & Play DDC	EDID 1.3	
Console Port (Combo)	DB-15 connector for VGA / keyboard / mouse (Combo interface)	DB-15 connector for VGA / keyboard / mouse Support USB servers or Combo KVM switches
Power Input	Auto-sensing 100 to 240VAC, 50 / 60Hz	
Power Consumption	Max. 48 Watt, Standby 5 Watt	
Compatibility	Multi-platform – Mix PCs, SUNs, IBMs, HPs & DELLs.	
Regulation Approval	FCC, CE, cUL	
Environmental	RoHS2 & REACH compliant	

Options

KVM Integration	Matrix & combo KVM with IP console and 2-console selection	
Keyboard & mouse	Full size keyboard built-in touch-pad / trackball	SUN-compatible keyboard integrated with 3-button touchpad / trackball
Graphic Input	DVI-D, S-Video & BNC input	-
DC Power	DC power input with 12V, 24V, 48V selection	

Environmental

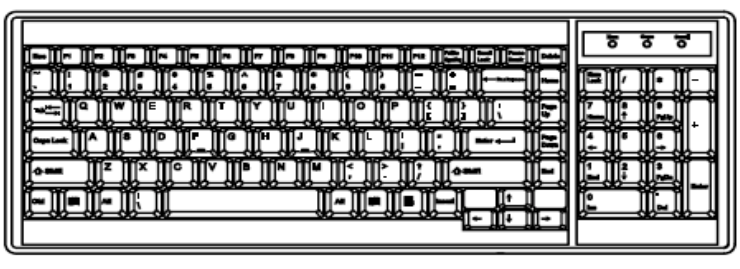
Operation	0˚ to 50˚C Degree
Storage	-5˚ to 60˚C Degree
Relative Humidity	5~90%, non-condensing
Shock	10G acceleration (11ms duration)
Vibration	5~500Hz 1G RMS random vibration

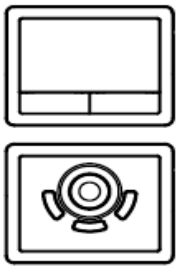
3.2 Keyboard & Mouse

For RW119 series

Supporting languages

Supporing layouts





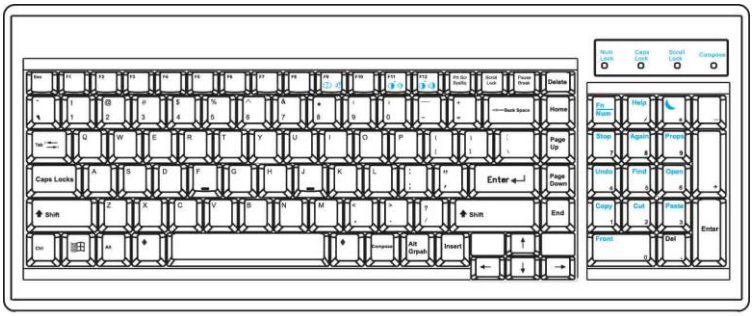
E Keyboard with touchpad

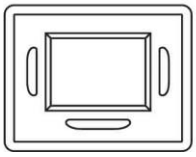
B Keyboard with trackball

3.2 Keyboard & Mouse (Continued)

For RWS119 series

Supporting layouts

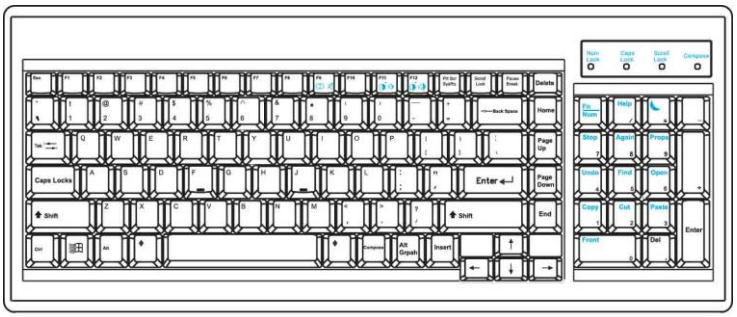


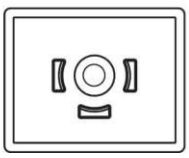


NSe

NS keyboard integrated with touchpad

- Incorporates SUN keys, including Stop, Cut, Paste, Compose, Copy and Help
- 104 key notepad keyboard with full numerical pad and SUN function
- USB interface





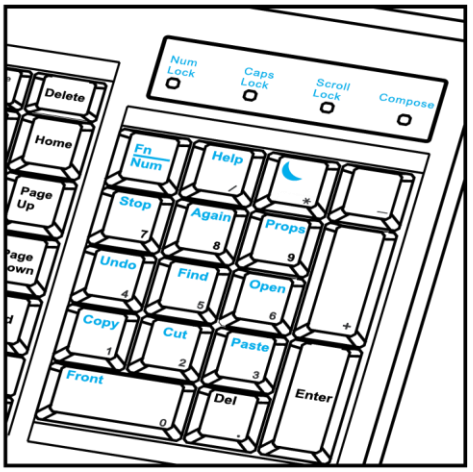
NSb

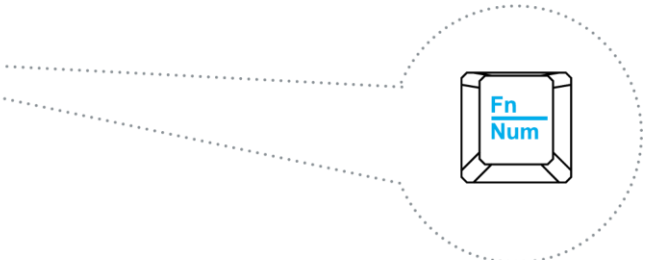
NS keyboard integrated with trackball

- Incorporates SUN keys, including Stop, Cut, Paste, Compose, Copy and Help
- 104 key notepad keyboard with full numerical pad and SUN function
- USB interface

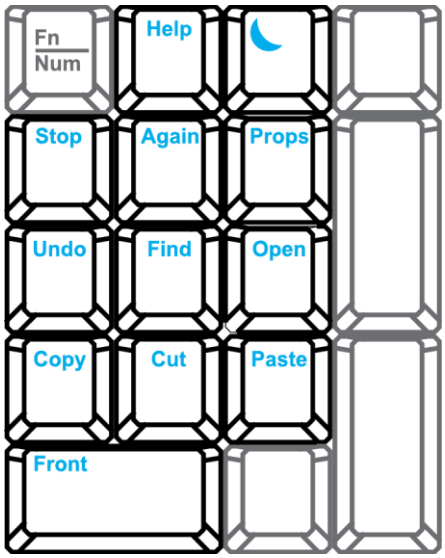
3.3 How to use “NS” keyboard

- NS SUN-compatible keyboard incorporates SUN short-cut keys.

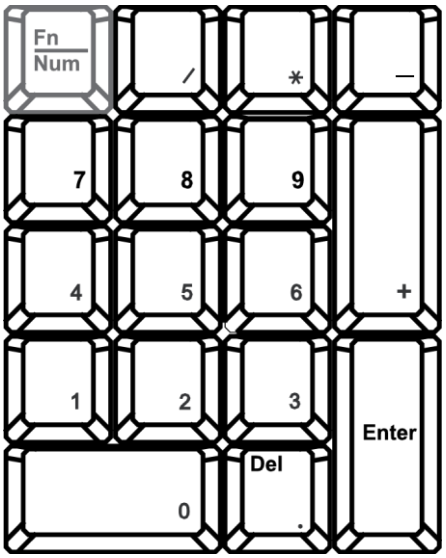




- Press the Fn/Num button to switch the color the Num LED.



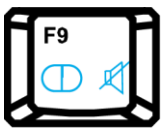
Num LED in Off mode
Key pad acts as a SUN Solaris system administration command mode

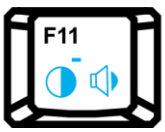


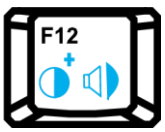
Num LED in Green color
Key pad acts as a normal key pad mode

Three Audio / Display keys are located in the upper-right corner of the NS keyboard:

- Audio: Mute, decrease in volume and increase in volume.
- Display: Degauss, decrease contrast and increase contrast.
- Please ask your supplier for full details







Chapter 4 Optional Specifications

4.1 KVM Options

Our KVM is designed to seamlessly integrate into the rear of our full range of LCD drawer solutions:

- For KVM operation, please refer to KVM user manual
- Option with Multiple consoles Matrix KVM
- Option with high density & cost efficient Combo KVM integration with either 8 / 16 / 32 ports
- Option with low cost PS/2 KVM
- Please ask your supplier for full KVM details

Matrix Cat6 KVM	Local	Remote	IP	8-port	16-port	32-port
	1	1	1	-	RW119 - CATx31116	RW119- CATx31132
	1	1	2	-	RW119 - CATx41216	RW119 - CATx41232
	1	1	0	-	RW119 - CATx21016	RW119 - CATx21032
	1	2	0	-	RW119 - CATx32016	RW119 - CATx32032
	1	3	0	-	RW119 - CATx43016	RW119 - CATx43032

Combo Cat6 KVM	Local	Remote	IP	8-port	16-port	32-port
	1	0	1	RW119 - CATx10108	RW119 - CATx10116	RW119 - CATx10132
	1	1	0	RW119 - CATx11008	RW119 - CATx11016	RW119 - CATx11032
	1	0	0	RW119 - CATx10008	RW119 - CATx10016	RW119 - CATx10032

Cat6 KVM Dongle : RDG-100S (VGA-USB)/ RDG-100 (VGA-PS/2)/ RDG-100SD (DVI-USB)

Matrix DB-15 KVM	Local	Remote	IP	8-port	16-port	32-port
	1	1	1	RW119 - KVM31108	RW119 - KVM31116	-
	1	1	2	RW119 - KVM41208	RW119 - KVM41216	-
	1	1	0	RW119 - KVM21008	RW119 - KVM21016	-
	1	2	0	RW119 - KVM32008	RW119 - KVM32016	-
	1	3	0	RW119 - KVM43008	RW119 - KVM43016	-

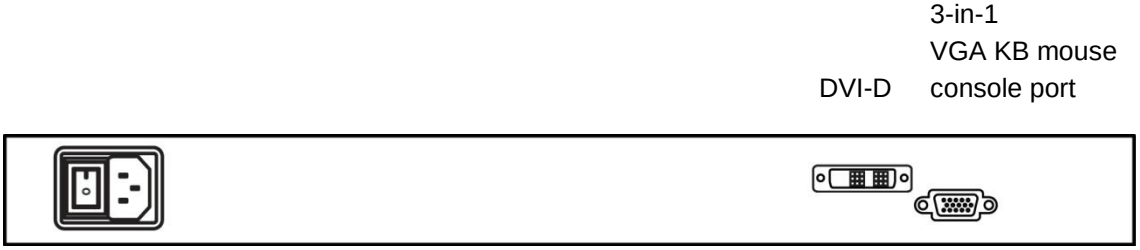
Combo DB-15 KVM	Local	Remote	IP	8-port	16-port	32-port
	1	0	1	RW119 KVM10108	RW119 - KVM10116	-
	1	1	0	RW119 - KVM11008	RW119 - KVM11016	-
	1	0	0	RW119 - KVM10008	RW119 - KVM10016	-

Combo DB-15 KVM Cable : RCE-6/10/15 (6, 10 or 15 ft.)

Remarks:

- “RWS119” is identified as Sun series.

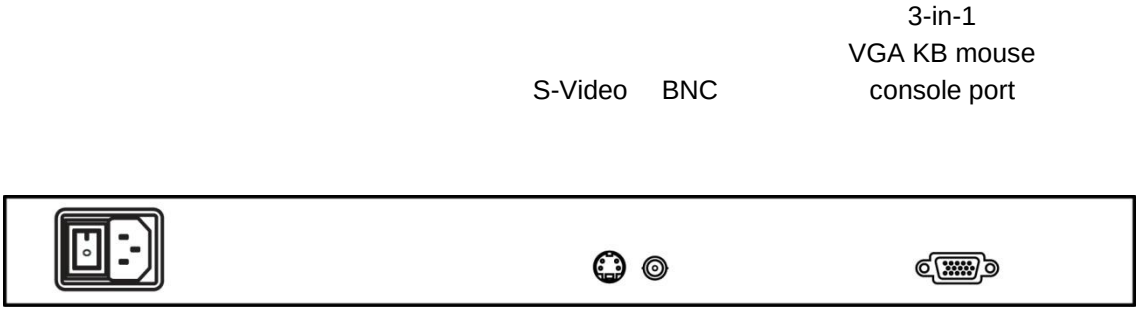
4.2 DVI-D Option



Remarks:

- Package includes 1 x 6ft DVI-D cable

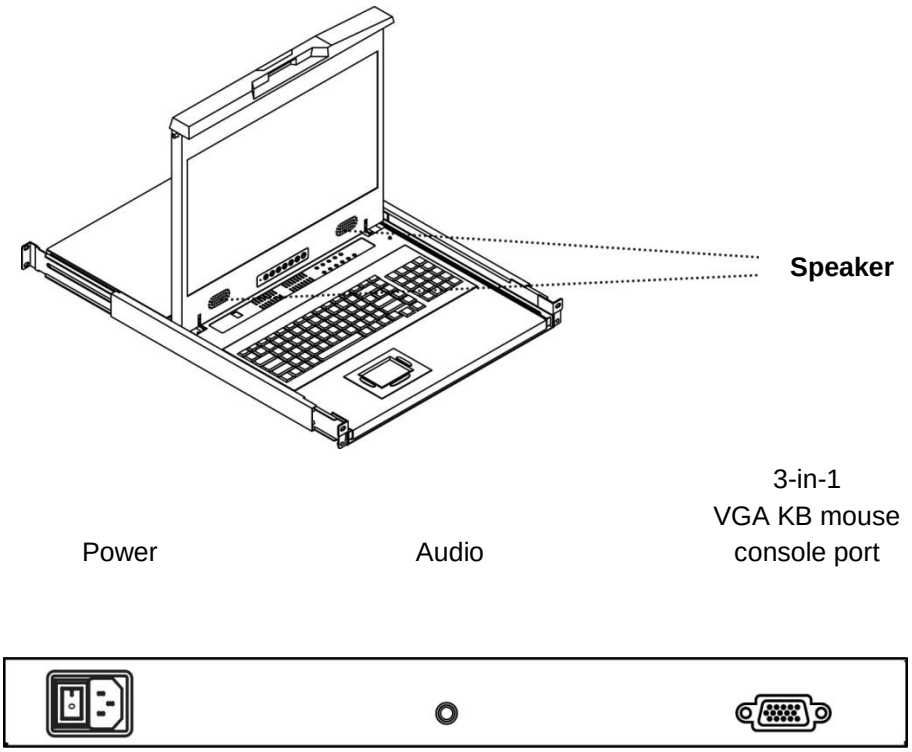
4.3 BNC + S-Video Option



Remarks:

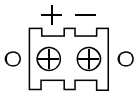
- Package includes 1 x 6ft S-Video cable

4.4 Audio Option



Remarks:

- Audio input is 35mm audio plug
- The speaker shares the same power with LCD.

4.5 DC Power Options 

Model	12V	24V	48V
Input rating			
Input voltage:	12-Volt	24-Volt	48-Volt
Input range:	9 ~ 18V	18 ~ 36V	36 ~ 75V
Input current			
- No load	50 mA	50 mA	50 mA
- Full load	4950 mA	2450 mA	1220 mA
Output rating			
Output voltage:	12-Volt	12-Volt	12-Volt
Output current:	4.16A	4.16A	4.16A
Efficiency	84%	85%	85%

Remarks:

- Package does not include power cord and AC power adapter

Chapter 5 Troubleshooting

1. **Is interference signal appeared on LCD normal when shutting down the computer?**
   In rare cases, interference may appear on the monitor. This may be caused by signal rate of VGA card and is considered normal. The image quality can be improved by adjusting the phase or pixel rate automatically or manually.

2. **The membrane power light is not ON**
   Press the power ON / OFF on LCD membrane to check if the monitor is in the ON mode. Check the power cord is properly connected to the LCD keyboard drawer and power outlet.

3. **Screen image is not centered or sized properly**
   Press the button for two seconds to automatically adjust the image. Adjust the H-position and V-position settings via On-screen menu.

4. **Is the LCD keyboard drawer hot-pluggable?**
   The LCD keyboard drawer is hot-pluggable, but components of connected devices, such as the servers and KVMs, may not be hot-pluggable. We suggest turning off the power to all devices before connecting them. Apply power to connected devices again only after the LCD keyboard receives power.

5. **How do I adjust the resolution?**
   To change monitor resolution, click Start -> Control Panel -> Display. Select Setting tab to adjust the monitor resolution in Desktop Area. The available resolutions, "640 x 480", "800 x 600", "1024 x 768", "1152 x 864", "1280 x 1024", “1440 x 900”, are determined by the display card in your computer.

For RWS119 Series

1. **How can I adjust the monitor resolution to 1152 x 900 for SUN Micro system?**
   The NS solution LCD keyboard drawer will automatically detect the 1152 x 900 resolution, so no user configuration should be necessary.

2. **How do I adjust the resolution in MS Windows operation system?**
   To change monitor resolution, click Start -> Control Panel -> Display. Select Setting tab to adjust the monitor resolution in Desktop Area. The available resolutions, "640 x 480", "800 x 600", "1024 x 768", "1152 x 864", "1280 x 1024", are determined by the display card in your computer.

3. **The Stop-A hot key is not work in Trusted Solaris**
   The keyboard combination Stop-A (L1-A) is not available in Trusted Solaris by default. The security administrator can change this.

4. **Is interference signal appeared on LCD normal when shutting down the computer?**
   In rare cases, interference may appear on the monitor. This may be caused by signal rate of VGA card and is considered normal. The image quality can be improved by adjusting the phase or pixel rate automatically or manually

Chapter 6 Dimensions

Model	Product Dimension (W x D x H)	Packing Dimension (W x D x H)	Net Weight	Gross Weight
RW119/RWS119 - Series	442 x 600 x 44 mm 17.4 x 23.6 x 1.73"	590 x 860 x 140 mm 23.2 x 33.9 x 5.5"	11.5 kg 25 lb	20 kg 44 lb

The company reserves the right to modify product specifications without prior notice and assumes no responsibility for any error which may appear in this publication.

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